

AMENDMENT  
Appln. No. 09/020,120  
Filed: February 6, 1998  
For: SYSTEM FOR MERCHANDISE ORDERING AND ORDER FULFILMENT

Attorney's Docket No. 21-1203

**REMARKS**

Reconsideration is respectfully requested.

Claims [redacted] remain in this application. Claims [redacted] have been cancelled. Claims [redacted] have been withdrawn. Claims [redacted] have been added.

The Examiner's rejections will be considered in the order of their occurrence in the Office Action.

**Part 1 of the Office Action**

Claims 13 through 15 and 54 have been rejected under 35 U.S.C. §102(b) as being anticipated by Walsh.

Claim 13, particularly as amended, requires "scanning means for scanning bar code indicia on a product and producing *digital data signals representative of the bar code indicia* scanned by said scanning means", "a translating means in communication with said first interface means and said third interfacing means for translating signals received by said first interface means and said third interface means", and "wherein said translating means *translates said digital data signals received from said scanning means via said third interface means into DTMF-encoded transfer signals and transmits said transfer signals to the first interface means* for being wirelessly transferred to the first transceiver means of the base station by said second transceiver means". These requirements of the claims permits the transfer of data, particularly bar code indicia data, over a voice line while voice communications may be uninterrupted.

The rejection of these claims in the Office Action relies solely upon the Walsh patent, which discusses the use of DTMF signals, but, it is believed, for an entirely different purpose than the claimed invention, and

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more importantly, in a manner that is completely contrary to the claimed invention. Basically, the Walsh patent discusses a system in which DTMF signals are employed as a "switch signal" code to change the mode of transmission from a voice mode to a data transmission mode (where voice is excluded until changed back to voice mode). However, nothing in the Walsh patent states or suggests that any data transmission, and particularly any signals carrying bar code indicia, is carried on using DTMF signals. To the contrary, the Walsh patent appears to suggest to one of ordinary skill in the art that conventional modem signals are used to communicate or transmit data once the "switch signal" code has been transmitted using DTMF.

More particularly, the Walsh patent states at col. 7, lines 3 through 13, that (emphasis added):

In other embodiments the invention provides a method for transmitting data signals, bar code informational and voice communication on a single telecommunication channel by initiating a transmission with a DTMF or MF "switch signal" code, followed by a data packet. The "switch signal" instructs the host computer system to turn off voice messages and enable modem communications and receive data packets. Data packets may include data, bar code information, command instructions (i.e., instructions from the user device to the host server), keystrokes and/or optional voice messages.

Clearly, this portion of the Walsh patent could only suggest that DTMF signals are used to change the communication mode to modem communication mode, and then a data packet may be transmitted. The "switch signals" transmission is further described at col. 8, lines 17 through 31 (emphasis added):

In yet other embodiments, methods are provided for a handheld low power user device to control voice or data transmission and reception by a host server by transmitting to the host server a coded DTMF (and/or MF) "switch signal" that commands switching between data and voice. Switch signals are preferably transmitted immediately before a telecommunication data packet, in this case.

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Receipt of the "switch signal" at the host server instructs a switching of telecommunications signal types, i.e., between voice and data. The subject switch signals are capable of switching between forms of communication in less than about 1 seconds, preferably less than about 0.5 seconds, and most preferably less than about 0.1 seconds. DTMF and MF signals have the advantage that they are distinguishable from voice signals.

The incompatibility of the communication modes is described at col. 8, lines 37 through 50:

Modem communications use FSK, DPSK, QAM and other signaling protocols to encode data. However, the tones used in these data encoding systems also may appear in voice and music. Thus, electronic circuits cannot readily distinguish between modem tones and voice or music messages and modems cannot reliably transmit or receive data when voice or music are on the same communication channel.

"Switch signal" codes according to the power conservation methods of the invention, are important since the host server (and user device) must turn off the modem when voice is being transmitted or the modem would create streams of invalid data commonly referred to as "modem chatter".

The character of the transmission of bar code signals is further described at col. 16, line 66 through col. 17, line 14 (emphasis added)

Digital signals representative of a bar code are transmitted to microprocessor 122 (located within the user device 120). Microprocessor 122 receives the digital bar code signals and converts them to ASCII (or other) codes which uniquely identify a bar code digit or character. Microprocessor 122 prepares (and optionally encrypts) command message data packets for transmission to host server 110. A representative data packet (according to the subject methods) includes one or more of the following: namely, encoded bar code signals, data identifying keystrokes, data identifying information about the user device 120, authentication information, and/or a media integrity code (such as a checksum or CRC). In a preferred embodiment, the local microprocessor 122 in user device 120 encodes the command message and associates the message with a media integrity code prior to transmission to host server 110.

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It will be noted that this discussion makes a clear distinction between the DTMF "switch signals" and the following data packet, transmitted using a modem rather than using the DTMF generator, such is emphasized at col. 17, lines 42 through 48:

In one presently most preferred embodiment, the command message transmission to the host server includes a DTMF, MF or multiple frequency tone signal followed by a sequence of modem communication signals that make up a data packet. (Transceiver 123 includes both a modem and a multiple frequency tone generator.)

It is therefore submitted that the Walsh patent does not disclose, and one of ordinary skill in the art would not recognize that the Walsh patent suggests, "translating means translates said digital data signals received from said scanning means via said third interface means into DTMF-encoded transfer signals and transmits said transfer signals to the first interface means for being wirelessly transferred to the first transceiver means of the base station by said second transceiver means", wherein the "digital data signals [are] representative of the bar code indicia scanned by said scanning means"

It is therefore submitted that the Walsh patent would not lead one of ordinary skill in the art to the applicant's claimed invention as defined in claim 13, especially with the requirements set forth above, and therefore it is submitted that claim 1 is allowable over the prior art. Further, claims 14 and 15, which depend from claim 13, also include the requirements discussed above and therefore are also submitted to be in condition for allowance.

Claim 54, which has also been rejected based upon the Walsh patent, requires in part, "providing the customer with *an option to respond*, according to the customer's preference, with a requested product identification in spoken words and *an option to respond with a requested product identification in DTMF-encoded signals*" (emphasis added).

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Curiously, the discussion of the requirements of claim 54 in the Office Action completely omits this requirement of the claim in its recitation of the elements required by claim 54, and similarly the rejection does not indicate where in the Walsh patent (if at all) the text describes providing a customer with the option to respond using either spoken word or DTMF signals, as required by claim 54.

Therefore, it is submitted that the Walsh patent would not lead one of ordinary skill in the art to the elements required by claim 54 of the present application.

Withdrawal of the §102(b) rejection of claims 13 through 15 and 54 is therefore respectfully requested.

**Part 2 of the Office Action**

Claims 1 through 12 and 26 through 39 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Walsh in view of Cerny et al.

Claim 1 requires, in part, "scanning means for scanning bar code indicia on a product, said scanning means being adapted to produce digital data signals based upon the bar code indicia scanned" and "a second translating means for converting digital data signals from said scanning means into DTMF-encoded transfer signals for transmitting to the first translating means of said base station". As noted in the previous discussion of the requirements of claim 15, the Walsh patent clearly does not disclose this element of the claimed invention, and is more likely to lead one of ordinary skill in the art away from this element than suggest it in view of the manner of communicating data described in Walsh.

Claim 1 further requires "voice recognition means for identifying spoken command signals received from said portable station and

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*converting said spoken command signals into predetermined computer command codes corresponding to the spoken command signals, wherein said voice recognition means transfers said predetermined computer command codes to said directing station" and "voice generation means for converting predetermined computer command codes received from said directing means into corresponding electronic sound signals for producing sounds corresponding to spoken commands, wherein said voice generation means transfers said electronic sound signals to said portable station".*

The rejection of the claims asserts that the Walsh patent discloses this feature of the claimed invention, however it does not provide any reference to any particular portion of the Walsh patent that is believed to support the assertion that Walsh shows this feature, and again makes a broad reference to the entirety of the description of the Walsh patent. However, it is submitted that while the Walsh patent may discuss analog to digital conversion of voice carrying signals, none of the elements in the Walsh system is capable of voice recognition, especially voice recognition that provides computer command codes, as required by claim 1.

Claim 1 further requires "directing means for determining an order fulfillment path through said product storage space based upon order fulfillment information and product location information stored in said database means for a product storage space, *said order fulfillment path including a sequence of person movement instructions for directing person movements between product storage locations in said product storage space for permitting an efficient assembly of products to fulfill a customer order, said directing means passing said person movement instructions to the first transceiver means for transmission to said second transceiver means of said portable station*". This feature of the claimed

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invention, facilitates the assembly of an order from products located in an inventory space such as a grocery store, where items are located in highly diverse locations and there are few traditional warehouse characteristics. The typical grocery store includes a multiplicity of aisles with products located in close proximity to each other on the shelves of those aisles, and lacks structures typically found in a warehouse, such as separate bins or product conveyors.

The Cerny patent, which is cited in the rejection as disclosing these elements of the invention, puts significant emphasis on the relative positioning of the products to be picked than the manner or order in which they are picked. See, for example, Cerny at col. 4, lines 1 through 6 (emphasis added):

The present invention comprises a method and apparatus for picking items to fill orders. The disclosed system utilizes multiple alternating picking periods, multiple picking areas, a dynamic alternating assignment of inventory items to predetermined pick faces, and other details as will be described in greater detail hereinafter.

Rather than transmitting "person movement instructions" of "an order fulfillment path", the Cerny patent describes a "pick list" of items that is carried by the picker while picking items, but does not include person movement instructions that define a path. See also Cerny at col. 8, line 66 through col. 9, line 4:

The picker, instead of being directed by his pick slip to pick a particular described item, is directed to pick the item in a particular designated bin. As a double check to the system, the pick slip directing the picking may also have a designation of the item that is supposed to be located in that bin during this pick period, but it is not required.

Thus, Cerny describes a practice where the identity of items to be picked was given to the picker, but fails to describe any description of person movement instructions", which are significantly different from simply

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providing the picker an item list or a packing slip, which would not provide any guidance as to the movements required to locate those items to be picked. For example, see Cerny at col. 1, line 66 through col. 2, line 6 (emphasis added)

Typically in the past, stored items were kept in a particular dedicated location. A particular item or sku was stored in its own location or storage bin on a substantially permanent basis. To fill and order, a worker (called a "picker") was given a "pick slip" or "packing slip" which listed all of the items needed to fill a particular order. In some systems the pick slip is an electronic or other signaling device used to indicate to a picker which items to pick for filling an order.

Thus, it is submitted that the Cerny patent describes a pick list that describes items to be picked, or at best bin locations for items to be picked, but would not lead one of ordinary skill in the art to the "person movement instructions" defining an order fulfillment path.

Similar to claim 1, claim 26 requires "determining a merchandise order fulfillment path through said product storage space, *said order fulfillment path comprising a sequence of person movement instructions between the product locations of product items on said listing of product items*" and "*transmitting one of said person movement instructions and a product item identity to said portable station in said product storage space for permitting a user of said portable station to locate a product item in said product storage space.*" Claim 27 requires "directing means for determining an order fulfillment path through said product storage space based upon order fulfillment information and product location information stored in said database means for said product storage space, *said order fulfillment path including a sequence of person movement instructions for directing person movements between product storage locations in said product storage space for permitting an efficient assembly of products to fulfill a customer order, said directing means*

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passing said person movement instructions to the first transceiver means for transmission to said second transceiver means of said portable station". Claim 29 requires "wherein the step of fulfilling the merchandise order additionally comprises *determining a merchandise order fulfillment path through said product storage space*, said order fulfillment path comprising a sequence of person movement instructions between the product locations of product items on said listing of merchandise items". Claim 30 requires "wherein the step of fulfilling the merchandise order additionally comprises transmitting one of said person movement instructions and a product item identity to said portable station in said product storage space for permitting a user of said portable station to locate a product item in said product storage space; and determining a merchandise order fulfillment path through said product storage space, said order fulfillment path comprising a sequence of person movement instructions between the product locations of product items on said listing of merchandise items". Claim 31 and 32 require "*directing means for determining an order fulfillment path through said product storage space based upon order fulfillment information and product location information stored in said database means for a product storage space*, said order fulfillment path including a sequence of person movement instructions for directing person movements between product storage locations in said product storage space for permitting an efficient assembly of products to fulfill a customer order, *said directing means passing said person movement instructions to the first transceiver means for transmission to said second transceiver means of said portable station*". (all emphasis added).

It is submitted that the remarks set forth above with respect to claim 1 that the Cerny patent would not lead one of ordinary skill in the art to the requirements of these claims, as Cerny fails to teach "person

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movement instructions" that define an order fulfillment path, and that is transmitted to the portable station employed by the person assembling product orders.

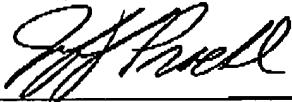
Withdrawal of the §103(a) rejection of claims 1 through 12 and 26 through 39 is therefore respectfully requested.

**CONCLUSION**

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,

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Date: Oct 24, 2005